USSR

UDC: 517.51

DZHABRAILOV, A. D., IL'IN, V. P.

"Certain Inequalities Between Norms of Partial Derivatives of Functions of Many Variables"

Teoremy Vlozheniya i Ikh Prilozheniya [Imbedding Theorems and Their Applications -- Collection of Works], Moscow, Nauka Press, 1970, pp 73-75, (Translated from Referativnyy Zhurnal Matematika, No. 8, 1970, Abstract #8B96, by the authors).

Translation: The inequalities between the norms of partial derivatives of functions of many variables are studied; they contain certain known inequalities for functions of Classes $\mathbf{W}^{\mathbf{r}}_{p}(\mathbf{G})$ and $\mathbf{S}^{\mathbf{r}}_{p}(\mathbf{W}(\mathbf{G}))$ as particular cases.

Ref. Code: UR 0301

PRIMARY SOURCE: Voprosy Meditsinskoy Khimii, 1970, Vol 16, Nr 1, pp5/-58

> ACTIVITIES OF HEXOKINASES AND DEHYDROGENASES OF PENTOSE-PHOSPHATE CYCLE IN TRANSPLANTED HEPATOMAS OF MICE

Il'in, V. S.; Teras, L. E.; Kil'dema, L. A.; Birk, R. V.;

Pyldvere, E. I.

The Department of Biochemistry, Institute of Experimental Medicine USSR Academy of Medical Sciences, Leningrad. The Department of Biochemistry, Institute of Experimental and Clinical Medicine Estonian SSR Ministry of Health, Tailinn

Activities of hexokinase, glucokinase and fructokinase, and dehydrogenases of glucose-6-phosphate and 6-phosphogluconate in cytostructures of slowly-growing (hepatoma 48 and 46) and rapidly-growing (hepatoma 22) transplanted hepatomas of C₅HA mice were studied. Specific activity of hexokinase is significantly elevated in soluble as well as in mitochondrial fractions of all hepatomas studied. The specific activity of glucokinase in soluble fraction of slowly-growing hepatomas was more than in the

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REEL/FRAME 19730164

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AP0037239

control. This may be connected with substantial decrease in protein content in this fraction of hepatomas. The specific activity of hepatomas glucokinase in mitochondria from hepatomas 48 and 46 was significantly lower than in the control, and does not developed in the tissue of rapidly-growing hepatomas. The specific activity of fructokinase in soluble fraction and mitochondria from slowly-growing hepatomas was slightly less than in the control. The activity of fructokinase in mitochondria of rapidly-growing hepatomas has not been noted. The specific activity of glucose-6-phosphate and 6-phosphogluconate dehydrogenases is sharply increased in soluble fraction of both slowly-growing and rapidly-growing hepatomas.

D.M.

3/2

19730165

UDC: 621.315.592

AGEKYAN, V. T., ZARHARCHENYA, B. P., IL'IN, V. V., SEYSYAH, R. P., STEPANOV, Yu. A., and SHIRYAPOV, I.-P.

"Exciton Magnetic Absorption in SnO2 Monocrystals"

Leningrad, Fizika i tekhnika poluprovodnikov, No 10, 1972, pp 1924-1930

Abstract: This article is in the nature of a recapitulation of experimental work on the absorption spectra of various materials in a magnetic field, with the accent on prior papers published by the authors named above. Recent experiments in the spectroscopic examination of germanium testifying to the exciton ordigin of magnetic absorption oscillations are cited. The authors of the present paper, however, list a number of reasons for using 5002 in such experimentation for a magnetic field of more than 10 hde, arguing that it is uniquely suited for clarifying the role of Coulomb insteraction in magnetic absorption oscillation spectra. Referring to an experiment described in an earlier paper they published (Agelyan, V. T., et al, PTS, 2, 182, 1972), using a pulse electromagnet, a liquid helium cryostat, an ISSh-500 panel lamp, and a DFS-8 spectrograph, they reproduce the basic result of that

USSR UDC: 621.315.592

AGEKYAN, V. T., et al, Fizika i tekhnika poluprovednikov, No 10, 1972, pp 1924-1930

experiment -- a plot of the positions of absorption maxima in the SnO2 spectrum as a function of the magnetic field intensity.

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VI-44. CIMAACTRISTIC STRUCTURAL DEFECTS IN DIAMOND [Article by Ye, V. Jobolev, O. P. Vor'yrea, V. Ye. Il'in, V. K. Assenov, Royallymond (Article by Ye, V. Jobolev, O. P. Vor'yrea, V. Ye. Il'in, V. K. Assenov, Royallymond (Article by Ye, V. Jobolev, O. P. Vor'yrea, V. Ye. Il'in, V. K. Assenov, Royallymond (Article by Ye, V. Jobolev, O. P. Vor'yrea, V. Ye. Il'in, V. K. Assenov, Royallymond (Article by Ye. V. Jobolev, O. P. Vor'yrea, V. Ye. Il'in, V. K. Assenov, Royallymond (Article by Ye. V. Jobolev, O. P. Vor'yrea, V. Ye. Il'in, V. K. Assenov, Royallymond (Article by Ye. V. Jobolev, O. P. Vor'yrea, V. Ye. Il'in, V. K. Assenov, Royallymond (Article by Ye. V. Jobolev, O. P. Vor'yrea, V. Ye. Il'in, V. K. Assenov, Royallymond (Article by Veryold) (Article by	1L'1N,	V. Ye		4	\$ 1		i a			ui saa		
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UDC-615-281:8:547-775

SARATIKOV, A. S., YAVOROVSKAYA, V. YE., PRISHCHEP, T. P., BLAGERMAN, S. K., KISELEYA, V. N., IL'INSKIY, N. N., and GICHEVA, T. A., Chair of Pharmacology, Tomsk Medical Institute, Tomsk, and Chair of Microbiology, Novosibirsk Medical Institute, Novosibirsk

"The Antivirus Effect of Some Pyrazolone Derivatives in a Cell Culture in Vitro"

Moscow, Farmakologiya i Toksikologiya, Vol 36, No 1, Jan/Feb 73, pp 67-73

Abstract: In experiments carried out with human fibroblast cell cultures, butadion, stearic acid antipyrylamide, and p-aminobenzoic acid N-methyl-N-antipyrylamide had an antivirus effect on the Coxsackie Al3 virus with which the cell culture was infected. This effect was due to the formation by the culture cells of an inhibitor which was not identical with interferon, because it was inactivated at pN 2.2. The pyrazolone derivatives studied stimulated the functional activity of the culture cells and did not damage their nuclear structures. These derivatives had no bactericidal effect on hemolytic streptococci. However, the culture liquid containing the inhibitor had a bacteriostatic effect on these streptococci. Hemolytic streptococci are often present together with Coxsackie virus A 13 in patients with rheumatic fever, particularly in the acute stage of this disease.

1/2 010 UNCLASSIFIED PROCESSING DATE--300CT70
TITLE--COMPLEXING OF TANTALUM PENTAFLUORIDE IN SOLUTIONS STUDIED BY A
FLUORINE-19 NMR METHOD -U-

AUTHOR-(02)-BUSLAYEV, YU.A., ILIN, YE.G.

CCUNTRY OF INFO--USSR

SOURCE-DOKL. AKAD. NAUK SSSR 1970, 19016), 1351-3

DATE PUBLISHED----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TANTALUM-COMPOUND, FLUGRIDE, FLUGRINE ISOTOPE, NMR SPECTRM, ACETONITRILE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1995/1589

STEP NO--UR/0020/70/190/006/1351/1353

CIRC ACCESSION NO--ATO116997

UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--300CT70 CIRC ACCESSION NO--AT0116997 ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. TAF SUB5 WAS STUDIED BY NMR ANAL. OF PRIME19 F IN SOLN. OF MECN IN THE PRESENCE OF VARIOUS LIGANDS: H SUB2 O, ME SUB2 SO, HCONME SUB2, ALC., AND AQ. H SUB2 O SUB2. THE NMR SPECTRA ARE DESCRIBED. IN ALL CASES STUDIED OF COMPLEXES OF THE FORM (TAF SUB5.L), THE SIGNAL FROM THE AXIAL F ATOM LIES AT HIGHER FIELD IN RELATION TO THE SIGNAL FROM THE EQUATORIAL F ATOMS. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 537.224:621.9.416

IL'IN, Yu. A., KHOMICHEV, V. D.

"A Method of Making Capacitor Film"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 2, Jan 71, Author's Certificate No 290332, division H, filed 6 Jun 69, published 22 Dec 70, p 134

Translation: This Author's Certificate introduces a method of making capacitor film which consists of a layer of metal and a polymer film applied by lacquering or some other method on a base with subsequent separation of the film from the base. As a distinguishing feature of the patent, the exposure of the metal through porous defects in the film is prevented in the process of metal deposition by vaporization in vacuum by depositing the layer of metal on a sublayer which has been preapplied to the base and has lower adhesion to the deposited metal than does the polymer layer. The polymer film is applied after depositing the metal on this sublayer.

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1/2 047 UNCLASSIFIED PROCESSING DATE--090CT70
TITLE--DOPING OF GALLIUM PHOSPHIDE CRYSTALS DURING VERTICAL CRUCIBLELESS
ZONE MELTING -U-

AUTHOR-(03)-ILIN, YU.L., SUROKIN, V.S., YASKOV, D.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 447-51

DATE PUBLISHED----70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--CRYSTAL IMPURITY, SINGLE CRYSTAL, CRYSTALLIZATION, VAPORIZATION, REACTION KINETICS, ZINC, TELLURIUM, METAL COATING, ZONE MELTING, GALLIUM ARSENIDE, PHOSPHIDE

CENTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME---1994/1900

STEP NO--UR/0363/70/006/003/0447/0451

CIRC ACCESSION NO--APO115719

UNCLASSIFIED

PROCESSING DATE--090CT70 UNCLASSIFIED 047 2/2 CIRC ACCESSION NO-APO115719 ABSTRACT. A TECHNIQUE WAS WORKED OUT FOR ABSTRACT/EXTRACT--(U) GP-0-DUPING GAAS FROM THE GAS PHASE, MAKING IT PUSSIBLE TO GROW SINGLE CRYSTALS WITH A UNIFORM BILK DISTRIBUTION OF THE DOPING IMPURITIES. POSSIBILITY IS SHOWN OF CONTROLLING THE CRYSTALS BY IMPURITY COMPN. WITHIN RATHER LARGE LIMITS BY CHANGING THE PARTIAL VAPOR PRESSURE OF THE THE DISTRIBUTION COEFFS. FOR ZN AND DOPING ELEMENT IN THE WORKING VOL. TE WERE FOUND EXPTL., AS WELL AS THE KINETIC VAPORIZATION COEFF. OF ZN CORRESPONDING TO THE STUICHIOMETRIC GAP MELT. FACILITY: LENINGRAD. ELEKTROTEKH. INST. IM. UL'YANOVA. LENINA, LENINGRAD, USSR.

UNCLASSIFIED

UDC 669.14.016.298.62-977

SHAVRIN, O. I., BAKHMATOV, A. L., IL'INA, A. N., KUDRYAVTSEV, M. M., and DENISYUK, T. P., Izhevsk Mechanical Institute

"Thermomechanical Treatment of Type 40KHNMA and 30KHGSA Steel Made by Various Methods"

Metallovedeniye i Termicheskaya Obrabotka Netallov, No 2, 1974, pp 42-44

Abstract: This work studies the influence of high temperature thermomechanical working on the properties of 40KHNMA and 30KHGSA steels produced by various methods of open melting with subsequent electric-slag remelting. The effectiveness of the thermomechanical working was estimated from the results of tensile and impact testing of standard specimens. It was found that the strength and ductility limits of the steel changes as they change following ordinary heat treatment. The relative elongatiom, reduction in area and impact toughness increased slightly after thermomechanical working, as after ordinary heat treatment. The plastic properties are somewhat lower than after ordinary heat treatment. Metallographic studies of the influence of thermomechanical working on the austenite grain size of 40KHNMA steel showed that the process makes the austenitic grains slightly smaller than does ordinary heat treatment.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

UNCLASSIFIED 1/2 017 TITLE-MECHANICAL PROPERTIES, OF CARBON STEEL, AFTER HIGH TEMPERATURE

THERMOMECHANICAL TREATMENT, AND THE AUSTENITE GRAIN SIZE -U-

AUTHOR-(03)-SHAVRIN, O.I., MOKRUSHIN, YU.A., ILINA, A.N.

COUNTRY OF INFO--USSR

SOURCE--METALLOVEDENIE I TERM. OBRABOT. METALLOV. 1970, (3), 57-58

DATE PUBLISHED ---- 70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MECHANICAL PROPERTY, CARBON STEEL, THERMOMECHANICAL TREATMENT, BORON CONTAINING ALLOY, BORON INTERNSIFIED STEEL, METAL HEAT TREATMENT, TOUGHNESS, GRAIN SIZE, AUSTENITE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3005/0928

STEP NO--UR/0129/70/000/003/0057/0058

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--APO133017

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

CIRC ACCESSION NO--APO133017
ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE RELATION BETWEEN THE MECHANICAL PROPERTIES OF C STEEL CONTG. TRACES OF B, THE FORM OF HEAT TREATMENT APPLIED TO THE STEEL (E.G. HIGH TEMP. THERMOMECHANICAL TREATMENT COMPRISING 30PERCENT DEFORMATION AT 900DEGREESC), AND THE AUSTENITE GRAIN SIZE WAS STUDIED. IN GENERAL THE PRECISE FORM OF THERMOMECHANICAL TREATMENT HAD NO MARKED EFFECT ON THE UTS AND YS, ALTHOUGH IT APPRECIABLY INCREASED THE TOUGHNESS AND DUCTILITY OF THE STEEL, PRESUMABLY AS A RESULT OF THE CORRESPONDING FALL IN AUSTENITE GRAIN SIZE.

UNCLASSIFIED

USSR UDC 681.332.65

KOKURIN, V. A., GLIKLIKH, B. P., IL'INA, G. F., and SHIFMAN, F. N.

"Synchronizer for Multicycle and Ferrite-Transistor Systems with Nonsimultaneous Inhibition"

USSR Author's Certificate No 273517, filed 14 Apr 69, published 18 Sep 70 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6, Jun 71, Abstract No 6B220P)

Translation: Synchronizers made of ferrotransistor elements are known in which the operating principle based on the write level's exceeding the read level is used. These synchronizers are built from special cells with augmented loop data which impose rigid requirements on the parameters of the magnetizing pulses. This complicates the master clocks significantly. Such circuits are necessary for systems with simultaneous inhibition, but their application in systems with nonsimultaneous inhibition is unjustifiable. The purpose of the proposal is to simplify the synchronizer circuit, executing it as a system based on a standard ferrotransistor with nonsimultaneous inhibition and at the same time improving the reliability of the overall device as a whole. The proposed synchronizer has been constructed, just as the known ones, from three standard memory cells with 1/2

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KOKURIN, V. A., et al., USSR Author's Certificate No 273517, filed 14 Apr 69, published 18 Sep 70 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6, Jun 71, Abstract No 6B220P)

positive feedback and an AND-NOT circuit. In contrast to the known devices, the inputs of the AND-NOT circuit, the first and third memory cells, and the write input of the second memory cell are connected to sources of synchronizing cycle pulses, and the AND output of the AND-NOT circuit is connected to the write input of the third memory cell. The output of the first cell is connected to the read input of the second cell, the output of the second cell is connected to the second write input of the third cell, and the output of the third cell is connected to the NOT input of the AND-NOT circuit and the input of the multicycle system. The distinguishing feature of the proposed synchronizer is the principle of construction of the circuit using a read response threshold of the ferrotransistor cells with positive feedback and resistance in the emitter circuit, in which a pulse will occur at the cell output only if the read pulse energy is sufficient to overcome the response threshold and the pulse parameters at the cell output do not depend on the read pulse parameters. 2/2

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UDC 629.78:526.2+525.7

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USSR

IL'INA C. I. and LAPCHEVA, V. F.

"Results of the Comparison of Altitudes of the Upper Cloud Boundary, Obtained on the Basis of Satellite Measurements, With Radar Observation Data"

Tr. Gidrometeorol. N.-I. Tsentr SSSR (Works of the Hydrometeorological Scientific Research Center, USSR), No 89, 1971, pp 3-11 (from Referativnyy Zhurnal, Issledovaniye Kosmicheskogo Prostraustva, No 5, May 72, Abstract No 5.62.279, Resume)

Translation: Results of the comparison of computed altitudes of upper cloud boundaries with altitudes obtained from radar observations, over the 1970 summer period, are presented. The conclusion is drawn that altitudes calculated on the basis of satellite data are understated on the average by one km in comparison to altitudes obtained on the basis of radar probes. The procedure of utilization of charts of the upper cloud boundary in the practice of nepthologic analysis is presented.

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UDC 541.49:543.422.4

CHEREMISINA, I. M., IL'INA, L. A., and LARIONOV, S. V., Institute of Inorganic Chemistry, Siberian Affiliate of the Academy of Sciences USSR, Novesibirsk

"Study by IR Spectroscopy of Chelates Formed by Metals with 0,0'-Diphenyl-thioselenophosphate Ions"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 18, No 5, May 73, pp 1278-1284

Abstract: The synthesis and some properties of complexes formed by metals with 0,0'-diphenylthioselenophosphate ions (PhO)₂P(S)Se⁻ (DPTSP) were described in earlier work. In the present work the compounds formed by K⁺ and Zn, Cd, Pb, Bi, Cr, Ni, Co, Pd, Rh, Pt, and Ir ions with DPTSP were studied by IR spectroscopy at 125-3600 cm⁻¹. Furthermore, the low-frequency (125-400 cm⁻¹) spectra of some complexes of metals with 0,0'-diethylthio- and 0,0'-diethylselenophosphate ions, the spectra of which had already been investigated in the 400-3600 cm⁻¹ range, were subjected to study. It was established that for compounds of heavier netals with DPTSP the \$\mu_{PS}\$ band was displaced to lower frequencies from that of 665 cm⁻¹ for the DPTSP-K⁺ compound. \$\mu_{M-S}\$ and \$\mu_{M-S}\$ a

UDC 541.49

USSR

LARIONOV, S. V., and IL'INA, L. A., Institute of Inorganic Chemistry, Siberian Branch, Acad. Sc., USSR

"Metal Compounds With 0,0"-Diethylselenophosphate Ions"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 4, Apr 71, pp 762-765

Abstract: The metal 0,0'-diethylselenophosphates were prepared by combining aqueous solutions of sodium 0,0'-diethylselenophosphate (I) and metal nitrates. The products precipitated, were washed with ice water, dried, redissolved in a minimal amount of chloroform, and reprecipitated by addition of hexane. The following derivatives were thus obtained: metal, m.p. given: Cu, 135-136°; Zn, 143-143.5°; Cd, 83-84°; and Bi, 74-75°. To prepare the palladium derivative, an acidified aqueous solution of K2PdCl4 was combined with (I). The complex was extracted with chloroform, dried, concentrated, and precipitated by addition of cyclohexane; the product—palladium bis-0,0'-diethylselenophosphate melted at 115-116°C. Analogously palladium bis-0,0'-diethylthiophosphate, m.p. 119-120° was obtained. Using the cryoscopic method it was shown that these complexes are associated in benzene.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

1/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70 TITLE--SYNTHESIS AND PROPERTIES OF TERTIARY MESITYLETHYL PHOSPHINES -U-

AUTHOR-(05)-ILINA, L.K., KARAVANOV, K.V., KARPOVA, YE.N., BOKANOV, A.I.,

Lind din Uli Li II

STEPANGY, B. T.

COUNTRY OF INFO--USSR

SCURCE--ZH. OBSHCF. KHIM. 1970, 40(3), 581-4

DATE PUBLISHED----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC SYNTHESIS, ORGANIC PHOSPHORUS COMPOUND, ORGANIC MACHINE DERIVATIVE, ISOTOPE, ORGANIC NITRO COMPOUND, IMINE

CONTROL MARKING-NO RESTRICTIONS

DCCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3002/1069

STEP NO--UR/0079/70/040/003/0581/0584

CIRC ACCESSION NO--APO128496

UNITED LASSIFIED

PROCESSING DATE-- ZONOV70 UNCLASSIFIED 026 CIRC ACCESSION NO--AP0128496 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MESITYLMAGNESIUM BROMIDE FROM 2.4 G MG AND 12.5 G ET SUB2 PCL MIXED AT MINUS 10DEGREES IN THE AND REFLUXED 0.5 HR GAVE 59PERCENT MESITYLDIETHYLPHOSPHINE (I), B SUB1 100-2DEGREES, D PRIMEZO 0.959, N PRIMEZO SUBD 1.5500; ETHIODIDE M. 132-3DEGREES, WITH NA PICRATE GAVE THE CURRESPONDING PICRATE, M. 78.5-80 DEGREES. ETPCL SUB2 AND RMGBR GAVE TOPERCENT DIMESITYLETHYLPHOSPHINE (II), B SUB1 176-8UEGKEES, M. 110-17DEGREES; ETHIODIDE, M. 278-80DEGREES, GAVE THE OXIDN. OF R SUB3 P WITH 4PERCENT H SUB2 O PICRATE, H. 170-IDEGREES. SUB2 GAVE TAPERCENT MESITYLDIETHYLPHOSPHINE OXIDE, B SUB1 150-2DEGREES, 1.040, 1.548C, AND SIPERCENT DIMESITYLETHYLPHOSPHINE GXIDE, M. 143-4CEGREES. I AND P.O SUB2 NC SUB6 H SUB4 N SUB3 IN ET SUB2 O AT O-SCEGREES, FINALLY AT REFLUX 1 HR, GAVE I P NITROPHENYLIMINE (III), M. THE FORMER WAS 118-19DEGREES: II ANALOG (IV). M. 188-9DEGREES. UNSTABLE IN AIR. THE LATTER STABLE. IN MENO SUB2, III GAVE THE IONIZATION CONST. BY TITRN. (KURULEV AND STEPANOV, (1968) PKA 15.95, AND COMPARED WITH 14.43 FOR IV, AND 15.72 FOR P.MEC SUBG H SUB4 PET SUB2:NC THE CHEM. SHIFT OF PRIME31 P IN 1 WAS 19 PPM SUB6 E SUB4 NO SUB2,P. THUS, THE EXCHANGE OF MESITYL FOR ET AND IN TRIMESITYLPHUSPHINE 39. DOES NOT LEAD TO ANGLE DEFORMATIONS IN R SUB3 P. FACILITY: MOSK. KHIM.-TEKHNOL. INST. IM. MENDELEEVA, MCSCOW, USSR.

UNCLASSIFIED

IL'INA, M. A., ITSKEVICH, Ye. S., and KALYUZHNAYA, G. A.

"Effect of Pressure on the Superconductivity of Niobium Diselenide"

Leningrad, Fizika Tverdogo Tela, Vol 14, No 2, 1972, pp 515-517

Abstract: The results are given of experiments designed to probe the effects of quasi-hydrostatic pressure of up to 100 kbar on the transition temperature of NbSe₂ in the superconductive state. The NbSe₂ specimen was crystallized in a layered hexagonal structure with a distance of 12.56 Å between layers, which consisted of two solidly packed selenium sheets with niobium atoms in triangular-prismatic hollows. Temperatures of 4.2°K and up were obtained by warming a cold multiplier above the level of liquid helium in a Dewar and were determined through the use of a thermocouple consisting of copper and a gold-silver alloy. Curves are given for the electrical resistance of the specimens as a function of the temperature at various pressures, for the critical temperature of the superconducting transition of the NbSe2 as a function of the pressure, and for the critical temperature as a function of the distance between the layers. Members of the Institute of High Pressure Physics, USSR Academy of Sciences, the authors express thanks to L. F. Vereshchagin and B. M. Vul for their support. 1/1

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Acc. Nr. A0053899_

Abstracting Service: CHEMICAL ABST. 6-70

Ref. Code UR0386

115828e High-pressure superconductivity of barium. 11 ma. M. A. Itskevich, E. S. (Inst. Fiz. Vys. Davlenii, Moscow, USSR). Pis ma Zh. Eksp. Teor. Fiz. 1970, 11(1), 26-8 (Russ). The temp. dependence of the elec. resistance (R) of a hexagonal modification of Ba arising at 25° and pressure p 59 kilobars was studied at $1.55\pm 0.0^{\circ}$ K and 60-100 kilobars. At 60-85 kilobars, R did not decrease at $T \ge 1.55^{\circ}$ K. The supercond. transition began at 85 kilobars and 1.55°K. The temp. of this transition (T_k) reached its max. 3.05° K at 88-kilobars and then sharply decreased linearly with p according to the equation $dT_k/dp = -(1.5 \pm 0.5) \times 10^{-4}$ °C/bar. Karel A. Hlavaty

X

REEL/FRAME 19830976

18Ck

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

TITLE--NUCLEIC ACID LEVEL IN POTATOES IN RELATION TO FERTILIZERS -U-

800

1/2

UNCLASSIFIED

AUTHOR--ILINA, M.G.

COUNTRY OF INFO--USSR

SOURCE--VESTN. SEL'SKOKHOZ. NAUKI (MOSCOW) 1970, 15(3), 47-50

DATE PUBLISHED ---- 70

SUBJECT AREAS--AGRICULTURE, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VEGETABLE CROP, MINERAL FERTILIZER, SOIL STRUCTURE, PLANT PHYSIOLOGY, RNA, DNA, NUCLEIC ACID

CONTROL MARKING--NC RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3007/1977

STEP NO--UR/9091/70/015/003/0047/0050

PROCESSING DATE--27NDV70

CIRC ACCESSION NO--APOL37156

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

2/2 008 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--APO137156
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. APPLICATION OF NH SUB4 NO SUB3,
SUPERPHOSPHATE, AND KCL (N-P AND N-P-K) FERTILIZERS INTO FURROWS OF
HEAVY CLAYEY SOIL ESSENTIALLY DID NOT CHANGE THE RNA AND DNA CONTENTS IN
THE POTATO TUBERS, AND DID NOT AFFECT YIELDS. THE RNA CONTENT OF EARLY
RIPENING POTATO VARIETIES WAS HIGHER THAN IN OTHER VARIETIES. THE RNA
ACCUMULATION CAN BE USED AS AN INDICATOR OF EARLY MATURATION OF
POTATOES. FACILITY: VSES. INST. UDDBR. AGROPOCHVOVED., MOSCOW,
USSR.

HNCLASSIFIED

USSR .

UDC 547.26:118

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IL'INA, N. A., YULDASHEVA, I. N., TRUTNEVA, YE. P.

"Reactions of Dialkylamidoalkylphosphorous Acids With Aldehydes and Ketones"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, pp 2173-2177

Abstract: The title reactions were studied in an effort to ascertain the existence of two tautomeric forms: the phosphonate (I) and the hydroxyphosphite (II) forms of dialkylamidoalkylphosphorous acids. In the presence of sodium alkoxide catalyst, N, N-dialkylamidoalkylphosphorous acids (III) reacted exothermally and rapidly with aromatic aldehydes, aromatic and aliphatic ketones to give N, N-dial'cyl(& -hydroxy) alkyl(aryl) phosphonemides which were identified by their IR spectra. A high reaction rate indicated a possible ionic mechanism involving an attack on the electrophilic carbonyl carbon by the nucleophilic phosphorus atom with formation of an intermediate compound which reacts with a second (III) molecule to give the final product. In the absence of a catalyst, aromatic aldehydes and ketones react very

- 49 -

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

USSR

IL'IMA, N. A., et al. <u>Ehurnal Obshchey Rhimii</u>, Vol 41, No 10, 1971, pp 2173-2177

vigorously with (III), probably in (II) form, to give an intermediate compound with a negatively charged onygen atom. This oxygen atom attacks P atom and simultaneously an amin-anion is eliminated from P atom and attacks C atom to form an intermediate cyclic cation which rearranges to crystalline alkyl amino-alkylarylphosphonates which exhibit differences in IR spectra, compared with those of the products of catalyzed reactions. The products of the (III) reaction with aliphatic aldehydes were not identified. The experimental procedures are outlined and elemental analysis data and physical constants of the reaction products are tabulated.

2/2

UDC 547.26'118

ABRAMOV, V. S. (deceased), and IL'INA, N. A.

"Reactions of Amidophosphite Esters. XVI. Reaction of Amidophosphite Esters with Polyhalohydrocarbons"

Leningrad, Zhurnal Obshchey khimii, Vol 41, No 1, Jan 71, pp 100-103

Abstract: The course of the reaction of amidophosphite esters with polyhalohydrocarbons depends not only on the number of amido groups in the ester-amides, but also on the reactivity of the halogen in the polyhalohydrocarbons. Carbon tetrachloride reacts with amidophosphites with liberation of large amounts of heat. The reaction of alkylamides of dialkylphosphorous acids with carbon tetrachloride yields mainly ester-amides of trichloromethylphosphonic acid, as well as alkyl halides and mixed chloroamidophosphates. Bis-dialkylamides of alkylphosphorous acids react with carbon tetrachloride more energetically than ester-amides of dialkylphosphorous acids to give acid chlorides of bis-dialkylamides of phosphoric acid and trichlorohydrocarbons. Chloroform reacts with bis-dialkylamides of alkylphosphorous acids to give an alkyl halide and an dialkylamide of dichloromethylphosphonic acid and the acid chloride of hisdialkylamide of phosphoric acid. Hexachlorocyclopentadiene reacts with esteramides of phosphorous acids to give the acid chloride of bis-dialkylamide of phosphoric acid and 5-alkylpentachlorocyclopentadiene. 1/1

1/2 011 UNCLASSIFIED TITLE--LIGHTWEIGHT REFRACTORY CONCRETE -U-

PROCESSING DATE--20NOV70

AUTHOR-1021-ILINA, N.V., SHADINA, M.N.

CCUNTRY OF INFO---USSR

SOURCE--USSR. 265,786
REFERENCE--UTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI NR 1970,
DATE PUBLISHED--O9MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS-REFRACTORY CONCRETE, PATENT, ALUMINA, CEMENT

CENTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3C02/1435

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128834

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--20NGV70

CIRC ACCESSION NO--AA0128834

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. LIGHTWT. REFRACTORY CONCRETE WITH
GREATER THERMAL STABILITY AND DURABILITY HAS THE FULLOWING COMPN.: HIGH
ALUMINA RAW MATERIAL CONC. 47-57, EXPANDED PERLITE 7-10, WATER GLASS
29-31, PURTLAND CEMENT 0.5-1 AND PLASTIC REFRACTORY CLAY 6.5-10 WT.
PERCENT FACILITY: STATE ALL UNION SCIENTIFIC RESEARCH INSTITUTE
OF THE CEMENT INDUSTRY.

UNCLASSIFIED

UDC 669.721.5:548.53

USSR

OVECHKIN, B. I., GUR'YEV, I. I., DZYUBENKO, M. I., IL'INA, R. F.

"Peculiarities of the Variations in Structure During the Process of Deformation and Recrystallization of Magnesium Alloy Sheets"

V sb. Struktura i svoystva legk. splavov (Structure and Properties of Light Alloys -- collection of works), Moscow, Nauka Press, 1971, pp 61-64 (from RZh-Metallurgiya, No 4, Apr 72, Abstract No 41653)

Translation: A study was made of the variation of the structure of MAS and MA2-1 alloy sheets after warm rolling and annealing. New data were obtained on the peculiarities of recrystallization in these alloys. It was established that in the deformation bands in the surface layers in comparison with the central the deformation bands in the surface layers in comparison with the central tayers, the temperature range of recrystallization is shifted to lower temperatures. These characteristic features of recrystallization can be used when tures. These characteristic features of recrystallizations and 10-entry bibliography.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

USSR

VDC 539.4.015

IL'INA, R. I., SIDOROV, N. G., MOROZOV, B. S., NIKITINA, M. F., and KOSHELEV, P. F., Moscow

"Interrelationship of Mechanical Properties and the Structure of Aluminum and Magnesium Casting Alloys at Low Temperatures"

Kiev, Problemy Prochnosti, No 10, Oct 70, pp 108-112

Abstract: Test results of smooth and nothced specimens of aluminum and magnesium alloys in a wide range of low temperatures are presented. The A_119 aluminum alloy and the VMe2 magnesium alloy showed the best combination of properties in the 293-20°K temperature range. The VA $_15$ and Me10 alloys showed properties up to a temperature of 77°K. A_127-1 and A_18M aluminum-magnesium alloys and the Me5 magnesium alloy can be used safely at temperatures up to 203°K.

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- 26 -

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

UDC 629.78.018.1

ARDASHEVA, M. M., IL'INA, S. A., LODYGIN, N. A., MAYKAPAR, G. I., PERVUSHIN, G. Ye., TULMACHEVA, K. F.

"Use of Fusible Temperature Indicators to Measure Heat Fluxes to Models in Wind Tunnels"

Uch. zap. Tsentr. Aero-gidrodinam. Inta [Scientific Writings of Central Aero-Hydrodynamics Institute], Vol 3, No 1, 1972, pp 77-82, (Translated from Referativnyy Zhurnal, Raketostroyeniye, No 4, 1972, Abstract No 4.41.171 from the Resume).

Translation: Temperature-indicating countings are widely used in studying heat transfer in aerodynamic experiments. A method is described for studying fusible heat indicators which allows the temperature and temperature interval of melting of the temperature indicators to be determined as a function of pressure and heating rate. The rate of sublimation of the temperature indicators is determined at various pressures. The use of this method has allowed the All-Union Scientific Research Institute of Luminophors and high-purity substances to develop fusible temperature indicators suitable for investigation of heat transfer to flight vehicle models. Model photographs produced in various wind tunnels are presented as examples. 7 Figures; 1 Table; 4 Biblio. Refs.

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- 149 -

VAVILIN, G. I., VASIL'YEV, A. V., IL'INA, T. B., KROPACHEV, V. A., LAVRENT'YEVA, Ye. M., RABINOVICH, I. M., and TRÜKHMANOVA, L. B., Institute of High-Molecular Compounds, Academy of Sciences USSR; State Scientific Research Institute of Tuberculosis, Ministry of Health of RSFSR; Leningrad Scientific Research Institute of Antibiotics, Ministry of Medical Industry USSR

"Use of Polymers for Modification of Antibacterial Preparations"

Riga, Fiziologicheski i Opticheski Aktivnyy Polimernyye Veshchestva, "Zinatne," 1971, pp 175-180

Abstract: Antibacterial preparations were modified by forming strong chemical bonds with polymers, and by protective coatings. Mixtures of p-aminosalicylic acid (PASA), streptomycin and hydrazine of isonicotinic acid (HINA) with polyvinyl alcohol (PVA) and polyvinylpyrrolidone (PVP), gels of iodopolyvinyl alcohol, as well as polymer preparations with PASA and HINA were studied. Coating of streptomycin, PASA, and HINA were accomplished with acetylphthalyl-cellulose (APC) and with its ammonium salt (NH4-APC). All prepared antitubercular preparations preserved their potency in vitro for not less than 1 year. Therapeutic properties of PASA, tubaside, and streptomycin with polymers were tested on dogs and guinea pigs. The long-lasting effect of preparations depended first of all on the polymer-carrier, its mol. wt.,

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

VAVILIN, G. I., et al., Fiziologicheski i Opticheski Aktivnyye Polimernyye Veshchestva, "Zinatne," 1971, pp 175-180

and the method of administration into the animal organism. Best results were shown by polymers with mol. wt. of 50,000-60,000. Coating of tubaside, PASA, and streptomycin with APC and NH4-APC eliminated some side effects, excessive production of gastric juices, increased tolerance by patients who could not take them without coatings, and prolonged effectiveness of all drugs tested. PASA pills with APC coating preserved their antimicrobial effect for 2 years (1.5 years for uncoated pills). Solubility of APC and NH4-APC coatings in artificial gastric juices at pH 7.4 was 20 and 15 min, respectively, and 3 hr at pH 1.2. Some coated pills reached small intestine before being completely decomposed. NH4-APC coatings were more penetrable by fluids than APC coatings.

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- 94 -

USSR VDC: 612.6L2.6-001.16:616.083.2-092.9

IL! INA, T. G., Docent, Chair of Eye Diseases, Tashkent Medical Institute

"Shifts in Intraocular Pressure and Hydrodynamic Indices During General Overheating of Experimental Animals (Dogs and Rats) Maintained on Different Diets"

Odessa, Oftal mologicheskiy Zhurnal, No 7, 1970, pp 537-541

Abstract: The possible relationship between shifts in intraocular pressure, diet, and climatic conditions in Central Asia, were studied by exposing dogs and rats to 2 hours of direct sunlight daily for 30 days. Half of the animals were exposed 2 hours after eating and drinking heavily ("satiated" group), while the other half were starved for 2h hours before exposure ("hungry" group). Overheating lowered intraocular pressure in the hungry dogs and rate by decreasing the production of aqueous humor and markedly increasing the rate of cutflow. In the satisfied animals, on the other hand, overheating raised intraccular pressure by increasing the production of agreeous humor (due to the entry of a large quantity of nutrients and water into the vascular bed), which could not be removed from the eyes, despite the considerable increase in rate of outflow of the fluid. The fact that

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APPROVED FOR RELEASE: 08/09/2001

IL'INA, T. G., Oftal'mologicheskiy Zhurnal, No 7, 1970, pp 537-541

hunger lowered intraocular pressure while satiation raised it is consistent with the author's observation of a rise in intraocular pressure in the summer in some glaucoma patients after eating a heavy real during the day. The level was much lower in the same patients when the pressure was measured before they ate.

2/2

Epidemiology

USSR

UDC 616.621.5-036.33+576.858.75

IL'INA, T. S., DZHALALOV, KH. D., VARSANOVA, YE. TA., YELISHYEVA, T. S., SEMIKHANIDU, L. G., and KIRGIZOVA, T. M., Laboratory of Virology, Scientific Studies Institute of Epidemiology, Microfiology, and Infectious Diseases

"Epidemological Characteristic of Three Epidemics of Flu Produced by the ${\rm A_2}$ Hong Kong Virus"

Tashkent, Meditainskiy Thurnal Uztekistana, No 8, Aug 73, pp 68-73

Abstract: Since the appearance of the $\rm A_2$ Hong Kong flu virus in January, 1969, in Tashkent, there have been three epidemics. Although the epidemics were similar in a general way, each exhibited particular features of the spread of infection, age of these infected, change with time and season of the year, and immunological characteristics toward various serums. The studies indicated that the cycles of flu produced by the $\rm A_2$ Hong Kong-68 flu virus

showed a tendency toward a gradual damping of the epidemic process, which is expressed in a decrease in the intensity of subsequent epicenics, in the reduction in the severity of the disease, in a decrease in infectiousness among adults, but an increase among young children, and in a general increase in immunity.

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Phytology

USSR

UDC 577.150.6:582.28

BEZBORODOVA, S. I., and IL'INA, T. V., Institute of the Biochemistry and Physiology of Microorganisms, Academy of Sciences USSR, Pushchino-na-Oke

"Extracellular Phosphomonoesterases Produced by Fusarium"

Moscow, Mikrobiologiya, Vol 39, No 5, Sep/Qct 70, pp 741-747

Abstract: Nine of 13 fungi of the genus Fusarium released both acid and alkaline phosphomonoesterases (PME's) into the culture fluid of a complex medium. Fusarium virio did not release PME and F. solani released only a small amount. Acid PME's predominated in all of the fluids investigated. Option pH, thermolability, and the effect of various substances (including bivalent metals) on F. oxysporum and F. sentectum PME were studied. Acid PME's had an optimum pil of 5.2; 7.8 was the optimum pH for alkaline PME's of F. oxysporum. The PME's were thermolabile at pH value from 2.6 to 9.0. The acid PME's were not inhibited by EDTA or citrate; the alkaline PKE's were. Phosphate inhibited the activity of both acid and alkaline PHE's. Cobalt, calcium, and magnesium activated the PME of F. oxysporum to a higher degree than that of F. sentectum. The extracellular alkaline PME of F. oxysporum was innibited by inorganic phosphate ions; the acid PME was not. Most of the investigated cultures of the genus Pusarium thus produce and release acid and alkaline PME's into the culture fluid. The acid PME's appear earlier and in larger quantities than do the alkaline PAE's. 1/1

Acc. Nr: 0036570

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Ref. Code: UR 0391

PRIMARY SOURCE: Gigiyena, Truda i Professional'nyye Zabolevaniya, 1970, Nr 2, pp // - 2/

EXPERIMENTAL PNEUMOSCLEROSIS FOLLOWING INHALATION OF MAGNESIUM-LITHIUM ALLOYS AEROSOLS

Il'ina, V. A.; Kochetkova, T. A.

Summary

Being endowed with well-pronounced alkaline properties magnesium-lithium alloy aeroscis produce, when inhaled, irritating action on the mucosa of the upper respiratory ment and on the pulmonary tissue and cause a number of changes in respiratory organs.

The include: moderate catarrhal tracheitis, bronchitis, interstitial pneumonia, diffuse was and emphysema of the lungs. The extent of the pathological process becomes the as the lithium proportion in the alloy increases.

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Public Health, Hygione and Sanitation

USSR

UDC 616.24-004-092.9-02:616-003.669

IL'INA, V. A. and AOCHETROVA, T. A., Institute of Labor Hygiene and Decupational Diseases, Adalemy of Medical Sciences USUR

"Experimental Pulmonary Sclerosis After Inhalation of Aerosols of Magnesius-Lithium Alloys"

Moscow, Gigiyena Truda i Professional nyye Zabolevaniya, No 2, 1970, gp 17-21

Abstract: Rats inhaling alloys of magnesium and lithium in different proportions over a period of 4-1/2 months developed tracheitis, bronchitis, interstitial pneumonia, diffuse sclerosis, and emphysema. The higher the percentage of lithium in the alloy, the more pronounced the changes. A single intratracheal injection of an aerosol of the magnesium-lithium alloy gave rise to the same shifts in the lungs as those produced by inhalation, but the pathological process was less pronounced and the course slower, because considerable amounts of the dust were eliminated by the bronchi and lymph system.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

1/2 011 UNCLASSIFIED PROCESSING DATE--300CT70
TITLE-EFFECT OF SULFURIC ACID ON THE DISTILLATION OF AQUEOUS FORMALDEHYDE

SOLUTIONS -U-

AUTHOR-(02)-DGBROSERDOV, L.L., ILINA, V.P.

CCUNTRY OF INFO-USSR

SOURCE-MASSOOBMENNYE PROTSESSY KHIM. TEKHNOL. 1969, NO. 4, 91-2

DATE PUBLISHED 70

SUBJECT AREAS-CHEMISTRY

TOPIC TAGS-SULFURIC ACID, DISTILLATION, FORMALDEHYDE, PHASE EQUILIBRIUM

CONTROL MARKING-NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED PROXY REEL/FRAME—2000/0812

STEP NO--UR/0000/69/000/004/0091/0092

CIRC ACCESSION NO--APO124479

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--300CTTO CIRC ACCESSION NG--APO124479

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LIQ. VAPOR EQUIL. OF AQ H SUB2 CO SOLNS. CGNTG. 9PERCENT H SUB2 SO SUB4 HAS DETD. ADDN. OF H SUB2 SO SUB4 INCREASED THE CONCN. OF H SUB2 CO IN THE VAPOR PHASE AND AFFORDED DISTILLATES WITH INCREASED H SUB2 CO CONTENT. FACILITY:

LENINGRAD. INST. TEKST. LEGK. PROM. IM. KIROVA, LENINGRAD, USSR.

UNCLASSIFIED

Vacuum Tubes

USSR

UDC 621.385.633

IL'INA. YE. M., KAN, A. M., TIMCHENKO, L. P.

"Two-Dimensional Theory of a Type O BWT"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1970, Issue 12, pp 12-32 (from RZh-Elektronika i yeye primeneniye, No 3, March 1970, Abstract No 3Alb4)

Translation: A two-dimensional nonlinear theory is developed for a type 0 backward-wave generator with a zero space charge. The current lowering for a delay system in a dynamic regime is investigated as well as the change of the electron trajectories under the influence of high-frequency electrical and magnetic focusing fields. The output parameters are computed of a type 0 backward-wave tube as a function of the geometry of the beam and its saturation coefficient of the transit channel, the magnitude of the focusing magnetic field, and the operating conditions. 16 reference. Summary.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

USSR

UDC 621.385.633

IL'INA YE. M., KATS, A.M., TIMCHENKO, L.P.

"Nonlinear Theory Cf A Type-O BWT With The Distribution Of The High-Frequency Field With Respect To The Beam Taken Into Account"

Elektron. tekhnika. Nauchno-tekhn. ab. Elektron SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronica), 1970, No 8, pp 143-146 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12A179)

Translation: It is shown that the efficiency of a Type-O backward-wave tube (with the distribution of the field with respect to the beam taken into account) comes out to be considerably less than in conventional one-dimensional theory. 8 ref. Summary.

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		Liquid Wasters in Deep Geological Formations Liquid Wasters in Deep Geological Formations (V. 1. Spitsyn, et al.) Development of Hethods for Preparing the Waster Herafluoride Technology for Burial (II. V. Krylova, et al.)	Study of the Possibility of Using Bituminization for Processing Highly Active Natus (K. P. Zakharova, et al.) Technical-Economic Comparison of the Methods of Solidification and Tank Storage for Highly Active Liquid Gastes From the Processing of Spent Fuel Elements of Mater-Cooled Mater-Hoderated Fower Renctors (L. G. Azamayeva, et al.)	CONTENTS Technical and Economic Appects of Handling Liquid Waste With Intermediate and High Levels of Radioactivity (V. 1. Spiteyn, et al.)	of papers spon c Energy of t	DISPOSAL O		
	, p	quisites for Burying Highly Active in Deep Geological Formations Sitsyn, et al.) Sethods for Preparing the Wastes Frechnology for Burial Tylova, et al.)	ing Bituminizat	CONTENTS of Handling Liquid W	papers sponsored by the State Co Energy of the USSR, 1972, Moscow	DISPOSAL OF RADIOACTIVE WASTES		
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TECHNICAL-ROWARIC COMPARISON OF THE METHODS OF SOLIDIFICATION AND TANK STURAGE FOR HIGHLY ACTIVE LIQUID WASTES FROM THE PROCESSING OF STEAT FYLL ELEMENTS OF WATER-COOLED WATER-NODEWATER FRACTORS

Paper by L. G. Azamayeva, 2 Signillana, A. N. Rolovov, A. N. Kondraelvov, M. A. Khodov, and A. A. Khonikevich, State Committee for the Use, of Atomic Energy of the USER [Radium Institute Invent V. G. Khlopin], Russian, 1AEA publication 88-136/31, Roseow, 1972]

The development of atomic power engineering imposes on the specialists of all countries engaged in this problem a great responsibility to future generations with respect to reliability of rendering radioactive wastes from a complex of enterprises serving this branch of industry harmless.

For each million kilowatts of installed electric power of atomic reactors, in the processing of TVEL (fuel elements) of the VVER (water. Naturally, the greatest difficulties arise in handling wastes of a high level of activity, the quantity of which is continuously increasing Ω^{7} .

cooled water-moderated power reactor) type approximately 40 cubic ineless

per year of such wastes are formed.

For rendering wastes of a high level of activity harmless by radioactive decay, storage for several hundred years is required. Aside from this it is known that the storage of wastes of a high level of activity in the form of fact that the service life of the storage spaces amounts to 20--25 years, the construction of additional tanks is required, to replace those which have bridge draw. hydrogen formed due to radiolysis of the solution. active elements, and also to ventilate the tanks with air for dilution of the them for a long time to remove the heat liberated in the decay of the radiosolutions is costly, complicated, and unreliable, since it is necessary to con-Concern about the construction and operation of storage spaces

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

idea of enclosing radioactive wastes in glasses and bitments that are seasified of enclosing radioactive wastes in glasses and bitments that are seasified by burled for a prolonged period without great expenditures on the operation of storage spaces. However, the majority of scientists consider that enclosure in bitment is permissible only for wastes with a specific activity of less than 10 curies per liter. At a greater specific activity swelling and failters than 10 curies per liter. At a greater specific activity swelling and failters than 10 curies per liter, because of the liberation of gastes form d as a result of radiolysis. The storage spaces for bitmen must be made with an explosive-proof design, since one of the basic gastes liberared is hydrogen for oversing of TVEL from atomic reactors with a high burnup of fuel, vitrification is a more reliable method.

4.

In this work a technical and economic comparison of two methods of handling highly active wastes a performed; storage in lanks and vitrate arise with subsequent storage of the glass blocks. (A comparison with the raveled of pumping wastes into deep formations of the earth's crust is performed in a work by V. I Spitsin and others.)

In the Soviet Union and in other countries several methods of vitrification of liquid wastes with a high level of activity are being developed.

ention of liquid wastes with a high level of activity are being developed, which differ in technology and design of the apparatuses, but all of them may be conditionally divided into two groups: single-stage and two-stage processes, Single-stage processes are simpler with respect to formulation of the apparatus, but, however, their operation is very complicated, the service life of the apparatuses is insignificant, in connection with the fact that in the process of digesting glass at a temperature of 900-1000 degrees C a contact of the nitrie-neit solutions and the nitrogen oxides in the water vapors with the walls of the apparatuses occurs.

It appears more feasible to conduct the process of vitrification in two singers: to perform dehydration and calcination at comparatively low temperatures (350-400° C), and to form the glass at high temperatures (300-1000° C). One of such methods is the method being developed in the Soviet Union (b), with respect to which the process of drying and calcination is performed in an apparatus with a boiling layer, and the process of vitrification in a ceramic (concrete) crucible by means of an induction current.

A technical-economic analysis of the method of storing solutions is

considered in detail in a paper by V. I. Spits in and others. In this paper, analysis is made of only the method of vitrification and a comparison of it with the storage of solutions.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

1/2 017 UNCLASSIFIED PROCESSING DATE-+020CT70 TITLE--CN THE MECHANISM OF FORMATION OF METALLO POLYMERS BASED ON EPOXY

THICKUL COMPOSITION AND COLLOTUAL LEAD -U-AUTHOR-(05)-ULBERG, Z.R., KUNPANIMETS, V.A., ILINA, Z.T., YAVORSKAYA,

R.V., MATANSON, F.M. COUNTRY OF INFO--USSR

SOURCE-- KULLCIDNYY ZHURNAL, 1970, VOL 32, AO 2, PP 278-281

DATE PUGLISHED----70

SUBJECT AREAS -- MATERIALS

TUPIC TAGS--METAL CONTAINING POLYMER, EPOXY RESIN, LEAD, POLYSULFIDE RUBBER, FREE RADICAL, CHEMISORPTION

CONTROL MARKING--NO RESTRICTIONS

DUCUMENT CLASS--UNCLASSIFIED PROXY PEEL/FRAME--1992/1551

STEP NU--UR/0069/70/332/002/0273/0231

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CIRC ACCESSION NO--APO112545

UNCLASSIFIED

सर-व्याप्त व्यवस्य व्यवस्था । इत्याप्त । इत्याप्त । इत्याप्त व्यवस्था । व्यवस्था । व्यवस्था । व्यवस्था । व्यवस्

PROCESSING DATE--020CT70

UNCLASSIFIED 017 2/2 CIRC ACCESSION NO--APO112545 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERACTION OF AN EPDXY THIGKUL MIXTURE WITH COLLOIDAL LEAD DURING ITS THERMAL FORMATION INVOLVES THE APPEARANCE IN THE SYSTEM OF FREE RADICALS AT THE TEMPERATURE 240 PLUS OR MINUS IODEGREES. THE INTERACTION BETWEEN THE EPOXY THIOKUL MIXTURE AND THE SURFACE OF COLLOIDAL LEAD IS OF A CHEMISORPTIVE NATURE. THE TEMPERATURE CONDITIONS OF PREPARATION OF METALLO POLYMERS BY THE THERMAL METHOD HAVE BEEN ESTABLISHED. THE

DEGREE OF SWELLING OF METALLU POLYMERS DECREASES WITH RISING METAL

CONCENTRATION.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

IL'INA-KAKUYEVA Ye.

JPRS 55341 CY 25W 7

UDC: 611.73.014.477-064-019

STRUCTURAL AND CYTOCHEMICAL CHANGES IN THE RAT'S SKELETAL MUSCLES ASSOCIATED WITH RESTRICTED MOBILITY

(Article by V.V. Portugalov, Ye.I. Il'ina-Kakuyeva, V.I. Starostin, K.D. Rokh., Inch. Z.F. Savik; Institute of Developmental Stology, USSK Acadumy of Sciences, Moscow; Leningrad, Arkhiv Anatomii, Gistologii i Embriologii, Russian, No 11, 1971, submitted 19 January 1971, pp 62-91]

The problem of hypokinesia and hypodynamia now gues an experient francork of special issues in commonautics and cilnical practice. In the last decade it has gained broad social significance. Induced, with the development of technology and occhanization of industry the working and living conditions for large groups of people in developed nations are changing appreciably. There are fewer and fewer applications for the muscular compo-

Diminished muscular activity leads to a large number of changen in systems that do not appear to be related to locemotor functions. There is change the major is a catecholamines, adosterone, electrolyte halance is mapaired, etc. Restricted muscular activity of man related to prolonged immobilization or strict bed rest is always associated with development of steppy of skeletal muscles and demineralization of bour tissue. Clinicians of we well aware of the fact that strict bed rest leads to changes in catedation clinicians, development of orthostatic hypotension, it is instrumental in development of venueus thrombosis, chronic pnaumonia, pulmonary embolism, urolithiania, and many other pathological conditions. We also know that in the case of hypokinesia and hypodynamia there is prevalence of inhibitory processus over excitatory ones in the central nervous system, etc.

Thus, even a mere listing of the effects of limited motor activity shows that it is important to maintain man's motor activity at a specific level in order to keep many of the body's functions within normal range.

The objective of the present investigation was to determine the nature of structural and cytochemical changes in some skeletul musclet of the hind legs as related to different durations of hypokinesia and hypodynamia. nature

USSR Physiology

UDC 591.862 + 576.343

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STAROSTIN, V. I., PORTUCALOV, V. V., and IL'INA KAKUYEVA, E. I., Institute of Medical-Biological Problems, Moscow (Reported by the Academician V. D. Timakov)

"Changes in Muscle Fibers of the Soleus Muscle During Hypokinesia"

Moscow, Doklady AN SSSR, Vol 190, No 5, 1970, pp 1,215-1,217

Abstract: Immature male rats were placed in special cages designed to limit their mobility for 15, 30, and 60 days. After 15 days, the cross sections showed considerable enlargement of muscle fibers, which had lost their polygonal form. Diformazan precipitated during determination of oxidative enzymes in the central zone of many fibers, the myofibrillar apparatus became "diffuse," and glycogen disappeared from the fibers. At later stages the muscle fibers diminished. Around the 30-day period glycogen in the fibers increased, concentrating in the central zone. Concurrently the activity of glycogensynthetase increased and that of phosphorylase A and B decreased. The area of formazan precipitation diminished and even disappeared. Towards 60 days, some reversal of the above processes took place. Some muscle fibers were destroyed -- they showed no enzyme activity and no glycogen. The atrophy and the sclerotic processes in the muscles continued to progress. The authors conclude that restriction of movement leads to the formation of a type of "target-fibers" in Soleus muscle, similar to those occurring during myopathy of diverse etiology. 1/1

1/2 027 UNCLASSIFIED PROCESSING DATE--300CT70
TITLE--CHANGES IN THE MUSCLE FIBERS OF THE SOLEUS MUSCLE DURING
HYPOKINESIS -U-

AUTHOR-(03)-STAROSTIN, V.I., PORTUGALOV, V.V., ILINAKAKUYEVA, YE.I.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(5), 1215-17

DATE PUBLISHED ---- 70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HYPODYNAMIA, MUSCLE PHYSIOLOGY, HISTOCHEMISTRY, ADENOSINE TRIPHOSPHATE, ENZYME ACTIVITY, GLYCOGEN

CENTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1998/0706

STEP NO--UR/0020/70/190/005/1215/1217

CIRC ACCESSION NU--AT0121365

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--300CT70 CIRC ACCESSION NO--AT0121365 ABSTRACT/EXTRACT--(U) GP-0-ABSTRACT. IN EXPTS. WITH MATURE MALE RATS SUBJECTED HYPOKINESIS BY CAGING IN 3 DIRECTIONS IT WAS SHOWN THAT THE SOLEUS MUSCLE CHANGES IN THE COURSE OF 15-60 DAYS SO THAT FIBERS FORM IN IT THAT ARE SIMILAR TO THE TARGET FIBERS DESCRIBED BY RESNIC AND ENGEL THESE CHANGES ARE NOT TYPICAL OF THE FAST MUSCLES SUCH AS IN THE LEG CALF. EVIDENTLY THE PECULIARITY OF STRUCTURE OF THE SOLEUS MUSCLE IS LARGELY RESPONSIBLE FOR THIS RESULT. THE FIBERS LOSE THEIR POLYHEDRAL FORM AND INCREASE IN VOL. AND ON THE HISTOCHEM. DETECTION OF OXIDIZING ENZYMES IN THESE FIBERS A VOLUMINOUS PPT. OF DIFORMAZAN IS OBSERVED. IN THESE FIBER REGIONS THE ACTIVITY OF ATPASE IS BELOW NORMAL AND GLYCOGEN DISAPPEARS FROM SUCH FIBERS. THE PPT. OF DIFORMAZAN IS ASCRIBED TO ACCUMULATION OF MITOCHONDRIAL MATTER IN THESE FIBERS ALONG WITH SUDANOPHILIC MATERIALS. FACILITY: INST. MED.-BIOL, PROBL., MDSCOW, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--230CT7C
TITLE--PROCEDURE FOR FREEZING ANIMAL TISSUES AT MINUS 155DEGREES FOR
PURPOSES OF QUANTITATIVE AND QUALITATIVE HISTOCHEMICAL INVESTIGATIONS
AUTHOR-(02)-KRASNOV, I.B., ILINAKAKUYEVA, YE.I.

COUNTRY OF INFO--USSR

SOURCE--TSITOLOGIYA 1970, 12(2), 262-4

DATE PUBLISHED ---- 70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HISTOCHEMISTRY, FREEZING, FREON, HYDROCARBON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1997/2033

STEP NO--UR/9053/70/012/002/0262/0264

CIRC ACCESSION NO--AP0120676

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--230CT7
CIRC ACCESSION NO--AP0120676
ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. A SIMPLE METHOD WAS DESCRIBED
USING ISOPENTANE OR FREON-12 (CCL SUB2 F SUB2) FOR THE QUICK FREEZING O
TISSUE SPECIMENTS FOR HISTOCHEM. PURPOSES. THE ADVANTAGE OF THIS METHO
IS THE PREVENTION OF THE APPEARANCE OF ICE CRYSTALS AND THE RESULTANT
CELL DESTRUCTION. THE METHOD DESCRIBED GAVE BETTER RESULTS THAN DID DR
ICE.

UNCLASSIFIED

UDC 669.71.053.4(088.8)

RUBINCHIK, F. M., and IL'INICH, V. N.

"Carbonization Device"

USSR Author's Certificate No 264375, filed 7 Jun 67, published 15 Jun 70 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11 Gl09 P)

Translation: A design is proposed for a carbonization device with gas-distributing and airlifting mechanisms, installed in a casing with finite bottom and equipped with a vent. To ensure effective operation of the large-capacity apparatus at low pressures of the hydrocarbon gas, the gas-distributing device is made in the form of an air-tight chamber with a perforated lattice situated in the upper part of the carbonization device's casing.

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UDC 621.316.1.012.5.001.24:681.3

BERKOVICH, M. A., IL'INICHNIN, V. V.

"Experience in Using Programs to Calculate the Periodic Components of Short Circuit Currents on the Ural-2 and Ural-4 Digital Computers"

V sb. Probl. tekhn. elektrodinamiki (Problemsof Technical Electrodynamics --collection of works), vyp. 25, Kiev, Naukova Dumka Press, pp 16-19 (from RZh-Elektrotekhnika i Energetika, No 4, Apr 71, Abstract No 4 Ye258)

Translation: The characteristic of the algorithms and methods of calculating short circuit currents is presented. A comparative analysis of the calculations on physical models and digital computers is presented. The prospects for using a digital computer to calculate short circuit currents are characterized. [Integrated Dispatch Control of the Unified Electric Power System of the European Part of the USSR]

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

USSR

UDC 621.317.7.087.92-932

BOLBOT, A. A., IL'NITSKIY, L. Ya.

"Transistorized Multiplier-Divider"

Sh. Nauch. tr. Kiev. In-t Inzh. Grazhd. Aviatsii [Collected Scientific Works of Kiev Institute of Civil Aviation Engineers], 1970, No 5, pp 101-102, (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel' naya Tekhnika, No 11, 1971, Abstract No 11 A181 by N. S.).

Translation: The principle of design of transistorized multiplier-dividers operating in a circuit with a grounded base is studied. A block diagram of a multiplier-divider for multiplication of two variables fixed by continuous currents and a schematic diagram of a 4-square multiplier-divider device are presented. The peculiarities of the operation of the devices are noted. 2 Figures; 2 Biblio. Refs.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

USSR UDC: 539.171

BARASHENKOV, V. S., IL'INOV, A. S., SOBOLEVSKIY, N. N., and TONEYEV, V. D., Joint Institute of Nuclear Research, Dubna

"Interaction of High-Energy and Ultra-High-Energy Nuclei and Particles With Nuclei"

Moscow, Uspekhi Fizicheskikh Nauk, No 1, 1973, pp 91-136

Abstract: This article is a rather qualitative review of the achievements made thus far from the study of collisions between high-energy and ultra-high energy particles and nuclei on the one hand, and nuclei on the other. This branch of nuclear physics has only recently come into its own and has proved a valuable tool for computing radiation protection for high-altitude aircraft and space ships, for the "electronuclear" method of obtaining atomic energy and acquiring rare isotopes, and for solving problems in the resistance of materials to radiation, among other things. Besides the general introduction to the subject, the topics treated in this review are: the mechanism of intranuclear cascades; the nucleus model and the computation of particle collisions with intranuclear nucleons; the general method of cascade 1/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

USSR

UDC: 539.171

BARASHENKOV, V. S., et al, <u>Uspekhi Fizicheskikh Nauk</u>, No 1, 1973, pp 91-136

computation; comparison of the cascade model and experiment; the model of intranuclear cascades in energies greater than several gigaelectron volts; intranuclear cascades at ultra-high energies beyond 10 Gev; the theory of inelastic collision between two nuclei; and a concluding section containing the authors' recommendations for further study. A bibliography of 85 titles is appended.

2/2

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USSR

UDC: 621.396.6:621.318

IL'INSKAYA, L. V., GIZATULLINA, L. Ye.

"On the Problem of Approximating Demagnetization Curves"

Sb. nauchn. tr. Vladimir. politekhn. in-t (Collected Scientific Works of Vladimir Polytechnical Enstitute), 1970, vyp. 10, pp 43-48 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V370)

<u>Translation</u>: The article contains some hypotheses on the problem of approximating demagnetization curves. Six illustrations, one table, bibliography of five titles. Resumé.

1/1

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Corrosion

USSR

IL'INSKAYA, N.

"Increasing Corrosion Resistance"

Moscow, Sotsialisticheskaya Industriya, No 146 (910), 24 June, 1972, p 4.

Translation: Corrosion resistance can be increased by 10,000 times -- these figures were presented by scientists at a meeting of the Committee for Inventions and Discoveries of the Council of Ministers, USSR.

Before me are the results of tests. Specimens were tested in solutions of hydrochloric, sulfuric, and phosphoric acids of various concentrations at elevated temperatures, and also in a mixture of hydrochloric and hypochlorus acids. The resistance of the new alloy was exceptional. For example, pure acids. The resistance of the new alloy was exceptional. For example, pure titanium in hydrochloric acid corrodes at a rate of 19 millimeters per year, the new alloy loses only 0.1 millimeter in this medium. In a medium of the new alloy loses only 0.1 millimeter in this medium, although titanium breaks calcium chloride, it remains absolutely impervious, although titanium breaks down in this medium at a rate of 2.13 millimeters per year.

Soviet scientists have essentially discovered a new principle for increasing the corrosion resistance of metals and alloys by cathode alloying.

What is the essence of the new discovery? Some alloys of metals, following a so-called "law of self-passivation," can withstand the destructive force of corrosion. This phenomenon was discovered by Doctor of Chemical Sciences 1/4

IL'INSKAYA, N., Moscow, Sotsialisticheskaya Industriya, No 146 (910), 24 June 1972, p 4.

N. Tomashov and Candidate of Chemical Sciences G. Chernova, scientists at The Institute of Physical Chemistry, Academy of Sciences USSR. Until their investigations, it was considered that cathede additives to alloys increased the corrosion of metals.

The greatest laboratories of the world conduct continuous searches for new means of protection of metals from corrosion. Many coatings, varnishes, and paints have been created. Nevertheless, each year 10% of the worlds production of metal is lost to corrosion. But if we were to stop the struggle duction of metal is lost to corrosion. But if we were to stop the struggle against corrosion and stop protecting metals from it, in a short time the against corrosion and stop protecting metals from it, in a short time the about steel spans of bridges, turbines, electric power transmission lines, beautiful steel spans of bridges, turbines, electric power transmission lines, and other engineering structures and machines would be converted to piles of and other engineering structures and machines would be simply impossible withrusted scrap. Some technological processes would be simply impossible without special corrosion-resistant alloys, since ordinary steels cannot withstand the corrosive attack of chemical media for long.

Therefore, researchers have struggled to make the metal alloys themselves passive to destruction. Soviet scientists have performed theoretical developments and experimental studies for many years. The phenomenen of self-passiments of metals was discovered. Researchers established that under certain value.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

IL'INSKAYA, N., Moscow, Sotsialisticheskaya Industriya, No 146 (910), 24 June 1972, p 4.

conditions the process of corrosion of metals can be moderated by alloying to the point that metal structures become practically completely stable for long periods of operation. This phenomenon is expressed in the fact that when slight quantities of palladium, platinum or ruthenium (from 0.05 to 0.5%) are added to alloys based on iron, titanium, lead, chromium, or zirconium, the corrosion resistance of the alloys increases by hundredths or thousandths of times in strongly corrosive oxidizing and non-oxidizing media.

The new discoveries are of great scientific and practical significance, since the results of studies have formed a basis for a new trend in the creation of corrosion-resistant alloys. The use of these alloys in the chemical, nuclear, petroleum, and other branches of industry can help to solve many difficult

The new discovery has already passed the laboratory stage. An alloy of problems. titanium with 0.2% palladium has successfully completed production testing and has been recommended for industry. In its physical-chemical and technological properties, it does not differ from titanium, but it has higher corrosion resistance. The use of this alloy will allow the creation of unique apparatus for the production of various chemical substances.

The introduction of homeopathic doses of palladium and platimum to chrome steels also makes them unusually resistant. Metallurgists are now working to

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

IL'INSKAYA, N., Moscow, Sotsialisticheskaya Industriya, No 146 (910), 24 June 1972, p 4.

make these alloys easier to work. "When we achieve this, probably, chrome steels alloyed with palladium will become the most interesting structural material in many branches of modern science and technology," says Doctor of

The Committee for Inventions and Discoveries of the Council of Ministers, Chemical Sciences N. Tomashov. USSR has recorded this outstanding research by Soviet scientists in the State Register of Discoveries.

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CIA-RDP86-00513R002201110013-0" APPROVED FOR RELEASE: 08/09/2001

IL'INSKAYA, N.

"Mysterious Mediator"

Moscow, Sotsialisticheskaya Industriya, 27 May 71, p 4

Abstract: A diploma has been awarded by the USSR Council of Ministers' Committee on Inventions and Discoveries to a group of medical scientists led by S. V. Anichkov, Academician of the Academy of Medical Sciences USSR. The scientists have proved experimentally that the flow of impulses generated by a strong stimulus and passing along the sympathetic nerves leads to interruption of metabolic processes. Even after hourly stimulation in the liver, structural changes are observed in those important sectors of the cell where protein synthesis takes place. The flow of impulses causes these changes in the ultrastructure of the cell through the mediator normarenalin. To check its level in tissue, the scientists aroused negative "emotions" in test animals and then checked concentrations of noradrenalin. It turned out that following the stimulus, the noradrenalin content in tissues dropped sharply. The researchers have concluded that exhausting reserves of noradrenalin leads to damage in the tissues of the liver, stomach, and heart. The extensive practical applications of this knowledge in preventing such diseases as myocardial in-1/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

IL'INSKAYA, N. Sotsialisticheskaya Industriya, 27 May 71, p 4

farction gastric ulcer, and hypertension are clear. It has already been determined, for example, that medications which fix noradrenalin prevent its being exhausted and hinder the development of disease.

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IL'INSKAYA, N.

"Radiation Recedes"

Moscow, Sotsialisticheskaya Industriya, 24 May 72, р 4

Translation: Yesterday the Committee for Inventions and Discoveries under the Council of Ministers USSR registered in the State Register an outstanding discovery, which marks a new stage in the development of radiobiology. Its author is Doctor of Biological Sciences, Professor V. I. Korogodin.

The capacity of the body to restore its cells after various inuries is remarkable! Thus, a cut is quickly cicatrized, a burn is covered with new skin, and a wound is healed. It would seem that only the deadly "breathing" of neutrons, gamma rays, and heavy ions destroys all living things irrevocably. Practice attests to this. The idea that injuries occurring in the cells of the body as a result of the effect of ionizing radiation are hardly or not at all reversible has also been rooted in science. Such a skeptical point of view hampered the search for methods of affecting the vital activity of irradiated cells. However, scientists could not lay down arms in the fight against a formidable enemy, i.e., radiation.

Professor V. I. Korogodin has devoted many years to the study of radiobiological processes. Are cells capable of restoring themselves following radiation injury? It is doubtful whether nature was so improvident that it 1/3

IL'INSKAYA, N., Sotsialisticheskaya Industriya, 24 May 72, p 4

did not protect its creation against radiation. This doubt initiated prolonged investigations. It turned out that a spontaneous process of restoration also occurs in irradiated cells. Why them was there the erroneous idea of an obligatory fatal termination when there is an "onset" of radiation? The previously used methods of study were not suitable for disclosing this process hidden in the depths of molecules. Professor V. I. Korogodin developed methods which make it possible to contribute to or to hamper the restoration of cells. The Scientists created a mathematical model describing the biological laws of the phenomenon discovered by him. The results exceeded all expectations. Cells can restore up to 80-85% of the injuries suffered as a result of the effect of ionizing radiation. It would seem that irrevocably perished particles of living nature unexpectedly revived and began to actively fight for their existence.

The scientist drew a sensational conclusion: As a result of the restoration the vital activity of cells can be increased hundreds and thousands of times! This means that cells can be taught self-denfense, i.e., it is possible to ensure their resistance to various external effects, including to those that lead to hereditary changes.

The research by this Soviet scientist helped to establish another general biological law, i.e., the control of the process of restoration on 2/3

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IL'INSKAYA, N., Sotsialisticheskaya Industriya, 24 May 72, p 4

the part of the "genetic apparatus" of the cell.

In the process of further work it was disclosed that following injuries cells can also be restored with some chamical substances possessing

The results of the research by this Soviet scientist evoked great a carcinogenic action. interest throughout the world. Having carofully studied V. I. Korogodin's method, scientists in the United States, Canada, France, Italy, and the FGR, embarked on numerous experiments. It became possible to develop methods of stimulating the restoration process of irradiated cells. This is a straight road to medical practice. Scientists hope to give a powerful remedy to the therapy of radiation injury and malignant tumors in the very near future, It is difficult to overestimate the importance of the now discovery.

In particular, the stimulation of the restoration of human nerve cells following various injuries, which accumulate in them in the process of vital activity, can also be one of the ways of preventing premature aging in the future.

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UDC 621.317.784.023

USSR

IL'INSKAYA, O. K., KONDRAT'YEV, V. M.

"Transmitted Power Meter"

USSR Author's Certificate No 276181, Filed 19 Feb 69, Published 8 Oct 70 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A278P)

Translation: A transmitted power meter containing a wave guide directional coupler connected to a cutoff attenuator, a crystal detector and a loop coupler is proposed. The proposed meter is distinguished by the fact that in order to insure calibration of the crystal detector, the coupling loop of the loop coupler is included in the coaxial section of the cutoff attenuator.

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- 83 -

UDC 547.944/945

USSR



FADEYEVA, I. I., PEREL'SON, M. YE., TOLKACHEV, O. N., IL'INSKAYA, T. N., and FESENKO, D. A., All Union Scientific Research Institute of Medicinal Plants

"Stephania Hernandifolia Alkaloids. IX. 3-0-Dimethylhernandifolin"

Tashkent, Khimiya Prirodrykh Soyedineniy, No 1, 1972, pp 130-132

Abstract: A compound was isolated from the methanol fraction of the chromatographic separation on an alumina column of a mixture of alkaloids obtained from Stephania Hernandifolia grass. This compound had np 148-149 and in contrast to hernandifolia, hernandine and methylhernandine showed a color reaction characteristic of o-diphenols. On the basis of IR and NIR spectroscopic data, it was assigned the structure of 3-0-dimethylhernandifolia.

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MCCO

IL'INSKAYA, T. N., PEREL'SON, M. YE., FADEYEVA, I. I., FESENKO, D. A., and TOLKACHEV. O. N., All Union Scientific Research Institute of Medicinal Plants

"Stephania Delovayi Alkaloids. II. 16-Ketodelavaine"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 1, 1972, pp 129-130

Abstract: A new alkaloid was isolated from the Stephania Delovayi Diels (Menispermaceae) grass, with mp 221-222°, [<] D $^{-160}$ °. This compound

showed a positive reaction for the dioxymethylene group. On the basis of UV, IR, and NiR spectroscopic analysis, this compound was claimed to be 16-ketodelavaine.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

UDC 547.944/945

USSR

FADEYEVA, I. I., IL'INSKAVA, T. N., PEREL'SON, M. Ye., KUZOVKOV, A. D., All-Union Scientific Research Institute of Medicinal Plants

"Structure of Delavaine, an Alkaloid from Stephania Delovayi"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 6, 1971, pp 784-790

Abstract: Nuclear magnetic resonance spectra data are presented for delavaine and its derivatives. These spectra and the data of far spin-spin interaction in delavaine confirm the following structure for delavaine:

1/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

FADEYEVA, I. I., et al., Khimiya Prirodnykh Soyedineniy, No 6, 1971, pp 784-790

A conversion diagram, experimental procedures, yields and some physical and chemical characteristics are presented for delavaine, D-delavaine, delavaine methiodide, the des-base of delavaine, acetoxymethylenedioxyphenanthrene, dimethylenedelavaine, and diacetyl-demethylenedelavaine.

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UDC 547.944/945

FADEYEVA, I. I., FESENKO, D. A., IL'INSKAYA, T. N., PEREL'SON, M. YE., and TOLKACHEV, O. N., All- Union Scientific-Research Institute of Medicinal Plants

*Alkaloids of Stephania Hernandifolia. VIII. Methylhernanine"

Tashkent, Khimiya Prirodnykh Soyedineniye, No 4, 1971, pp 455-456

Abstract: This a is a continuation of research begun on alkaloids extracted from the above-ground portion of Stephania hernandifolia.

From the hydrochloride, which is weakly soluble in alcohol, a new alkaloid was extracted with formula $C_{20}^{H}27^{0}6^{N}$ and melting point 152-153°C

(ethanol-ether), which was named methylhernandine. The infrared and magnetic resonance spectra of this substance were obtained.

The alkaloid was finally identified with N-methylamine alcohol, which is obtained in the hydrolysis of hermandifoline.

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- 19 -

UDC 547.92

USSR

FESENKO, D. A., FADEYEVA, I. I. IL'INSKAYA, T. N., PEREL'SON, M. Ye., and TOLKACHEV, O. N., All Union Scientific Research Institute of Medicinal Plants

"Stephania Hernandifolia Alkaloids. VI. Hernandifolin"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 2, 1971, pp 158-164

Abstract: 10 kg of dry Stephania hernandifolia grass was immersed in 10% ammonia, and after decantation extracted with dichloroethane. The extract was treated with 10% sulfuric acid, neutralized with ammonia and extracted with ether, made alkaline (pH 9), and reextracted with chloroform. The extract was dried, concentrated and chromatographed on an alumina column. A mixture of three alkaloids was obtained from the chloroform eluate, and after a triple recrystallization from chloroform 1.2 g of hernandifolin (I) was obtained in the form of an addition product with chloroform, m.p. 227-227.5°.; treatment of this material with ether followed by ammonia gave free (I), m.p. 128-229°, $[\alpha]_D = -25$ °. Reacting (I) with acetic anhydride in pyridine, followed by chromatography over alumina produced diacetylnernandifolin, m.p. 171-171.5° eluted with methanol. N-Methylhernandifolin was obtained by reacting (I) with methyl iodide. Hydrolysis of (I) in 1/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201110013-0"

USSR

FESENKO, D. A., et al., Khimiya Prirodnykh Soyedineniy, No 2, 1971, pp 158-164

alcoholic NaOH followed by treatment with sulfuric acid and finally with ammonia gave hesperitic acid, m.p. 228-229°. The structure assignment was based on the analysis of NMR, IR and mass spectral data.

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- 4 -

UDC 547.92

USSR

FL'INSKAYA, T. N., FESENKO, D. A., FADEYEVA, I. I., PEREL'SON, M. Ye., and TOLKACHEV, O.N., All-Union Scientific Research Institute of Medicinal Substances

"Stephania Hernandifolia Alkaloids. VII. Hernandin"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 2, 1971, pp 180-184

Abstract: The chloroform mother liquors of the Stephania hernandifolia extracts left after the removal of hernandifolin was evaporated in vacuum. The tarry residue was trented repeatedly with 10% HCl solution, the combined acid extracts were thoroughly reextracted with chloroform, washed with 10% ammonia solution and water, dried and evaporated. The residue was crystallized from ethanol to yield harnandin, m.p. $197-199^\circ$, $[\alpha]_{0}^{20} = -33^\circ$. IR, NMR, and mass spectra were studied in an attempt to discover the structure of this product.

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1/2 010 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--STRUCTURE OF THE ALKALOID DELAVAINE -U-

AUTHOR-(04)-FADEYEVA, I.I., LINSKAYA, T.N., PERELSON, M.YE., KUZOVKOV,

COUNTRY OF INFO--USSR

1102

SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(1), 140-1

DATE PUBLISHED----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROCESSED PLANT PRODUCT, ALKALOID, NUCLEAR MAGNETIC RESONANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3005/0465

STEP NO--UR/0393/70/006/001/0140/0141

CIRC ACCESSION NO--APO132680

UNCLASSIFIED

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2/2 010 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0132680
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DELAVAINE, M. 149-50DEGREES
(ETOH), (ALPHA) SUBD MINUS 240DEGREES, HCL SALT M. 203-3.5DEGREES
(ETOH), METHIODIDE M. 190-2DEGREES, WAS ISOLATED FROM GRASS OF STEPHANIA
DELAVAYI. TWO POSSIBLE STRUCTURES, I (R PRIME1 R PRIME2 EQUALS) CH
SUB2, R PRIME3 EQUALS ME) AND I (R PRIME1 EQUALS ME, (R PRIME2 R PRIME3
EQUALS) CH SUB2) WERE USGGESTED ON THE BASIS OF NMR SPECTROSCOPY,
FUNCTIONAL GROUPS ANAL., AND HOFMANN DEGRADATION. FACILITY:
VSES. NAUCH.-ISSLED. INST. LEK. RAST., BITTSA, USSR.

UNCLASSIFIED

UDU 621.382:535.376



GUREVICH, I.M., NOVIKOVA, G.M., FYATNITSKAYA, G.A., IL'INSKIY, A.A., LETICHEVSKIY, YE.A.

"Investigation Of Gallium-Phosphide Light-Emitting Diodes And Development Of Laboratory Generator Of Short Light Pulses"

V sb. Impul's. fotometriya (Pulse Photometry-Collection Of Works), Issue 2, Leningrad, "Mashinostroyeniye," 1972, pp 144-147 (from RZh: Elektronika i yeye primeneniye, No 9, Sept 1972, Abstract No 98311)

Translation: The paper investigates GaP light-emitting diodes in a pulse regime ($\mathcal{T}=100$ nanosec) with a pumping current of 1.2 A. The luminous efficiency of the diffusion diodes amounts to 5 x 10^{-3} lm/sec/Joule and the epitaxial 0.35 x 10^{-3} lm/sec/Joule. A pulse generator (IGS-1) was developed for the supply of light-emitting diodes with a pulse duration of 10 nanosec, a front of 5 nanosec, and a maximum voltage of 35 V. 3 ill. 6 ref. Yu.M.

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1/3 005 UNCLASSIFIED PROCESSING DATE-+27NOV70
TITLE--THE RECURRENCE OF MILK YIELDS AND VALUES OF BUTTERFAT CONTENT
DURING 300 DAYS LACTATION IN THE PEDIGREED DAIRY CATTLE FARM KARAVAYEVE

AUTHOR--ILINSKIY, A.A.

COUNTRY OF INFO--USSR

SOURCE--GENETIKA 6(1): 42-47. 1970

DATE PUBLISHED ---- 70

SUBJECT AREAS--AGRICULTURE

TOPIC TAGS-FAT, DAIRY CATTLE, FOOD PRODUCTION, FOOD ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3007/0434

STEP NO--UR/0473/70/005/001/0042/0047

CIRC ACCESSION NO--AP0135902

UNCLASSIFIED

2/3 005 UNCLASSIFIED PROCESSING DATE--27NOV70 CIRC ACCESSION NO--APO135902 ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE OBJECT OF THIS STUDY WAS THE RECURRENCE OF MILK YIELDS AND THE VALUES OF BUTTERFAT CONTENT IN THE MILK IN THE CONSECUTIVE LACFATIONS OF THE COWS OF THE KOSTROMSKAYA BREED IN THE PEDIGREED DAIRY CATTLE FARM (KARAVAYEVO). ACCORDING TO THE FORMULA OF THE INTRA CLASS CORRELATION, THE RECURRENCE COEFFICIENTS IN NINE CONSECUTIVE LACTATIONS OF 92 CONS WERE 0.436 PLUS OR MINUS 0.002 AND 0.697 PLUS OR MINUS 0.001 FOR THE MILK YIELD AND FOR THE BUTTERFAT CONTENT RESPECTIVELY. FOR THE PAIRS OF SUCCESSIVE LACTATIONS, THE RECURRENCE COEFFICIENT FOR THE MILK YIELD WERE 0.729, 0.787, 0.698, 0.638, 0.638 AND 0.657 FOR THE 1ST AND 2ND, THE 2ND AND THE 3RD, THE 3RD AND THE 4TH, THE 4TH AND THE 5TH, THE 5TH AND THE 6TH, THE 6TH AND THE 7TH LACTATIONS, RESPECTIVELY. FOR THE BUTTERFAT CONTENT, THE CORRESPONDING VALUES OF THE RECURRENCE COEFFICIENTS FOR THE SAME PAIRS OF SUCCESSIVE LACTATIONS WERE 0.704, 0.702, 0.678, 0.0643, 0.636 AND 0.666, RESPECTIVELY. THE VALUE OF THE RECURRENCE COEFFICINET FOR THE PAIRS OF SUCCESSIVE LACTATIONS IS CORRELATED WITH THE LEVEL OF THE MILK YIELD IN THE HERD. THUS, WHEN THE AVERAGE VALUES OF THE MILK YIELD FOR 3 SUCCESSIVE 5 YR PERIODS WERE 6244, 5183, AND 4268 KG PER YEAR RESPECTIVELY, THE CORRESPONDING AVERAGE VALUES OF THE MILK YIELD RECURRENCE COEFFICIENTS FOR THE SAME 5 HR PERIODS WERE 0.739 PLUS OR MINUS 9.010, 0.724 PLUS OR MINUS 0.010 AND 0.548 PLUS OR MINUS PLUS OR MINUS 0.015 RESPECTIVELY, WHILE THE CORRESPONDING AVERAGE VALUES OF THE BUTTERFAT CONTENT RECURRENCE COEFFICIENTS WERE 0.779 PLUS OR MINUS 0.008, 0.598 PLUS OR MINUS 0.014 AND 0.645 PLUS OR MINUS 0.012 RESPECTIVELY.

UNCLASSIFIED

3/3 005 UNCLASSIFIED PROCESSING DATE--27NOV70 CIRC ACCESSION NO--APO135902 ABSTRACT/EXTRACT--FACILITY: KOSTROMA AGR. INST., KOSTROMA, USSR.

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USSR ·

UDC: None

IL'INSKIY, A. I., PALATNIK, L. S., and SAPELKIN, N. P.

"Creep and Durability of Highly Stable Copper Films"

Leningrad, Fizika tverdogo tela, No 11, 1973, pp 3196-3201

Abstract: The equipment and methods of an experimental inquiry into the creep and durability of copper films, obtained by condensation in a vacuum, are considered in this paper. The films tested were 25±5 \$\mu\$ thick, and were prepared in a vacuum of about 5·10⁻⁵ mm Hg by the method of crucible vaporization of copper with a purity of 99.7%. For these experiments, special apparatus was used; a diagram of this equipment is given. Curves for the durability of the films as a function of the temperature are given along with a table of the effect of temperatures of 100, 20, 0, and -196° C on the durability of films under a stress of 80 kg/mm². A second table shows the effect of the stress on the rate of creep. The effects of annealing at temperatures of 250° C are also considered. It was found that the purity of the films markedly affects the creep and durability characteristics. The authors thank V. I. Betekhtin for his advice.

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SVESHMINGY, A.G., IL'INSLIY, A.S., PAVLO7, A.L.

"Diffraction Of Flane Mave At An Ideally Conjucting Cylinder In a Fan-Initian Medium"

Radiotehhnika i elektronika, Vol XVII, No 7, July 1972, pp 1:37-1;31

Abstract: The problem of diffraction at bodies, the dimensions of unleighed commensurable with the wavelength, and which have a natural transition acts into the body, given rise to great difficulties during theoretical insectination. In the present paper the potentialities are illustrated of the type of material methods during the solution of diffraction problems of this type of acquiryoner methods during the solution of diffraction problems of this type of acquiryoner electronic Computers. The results are presented of a colution of the problem of the diffraction of a plane wave of 12 polarization at infinitely lone a limitarial the diffraction of a plane wave of 12 polarization at infinitely lone a directivity in bodies located in a nonuniform medium. Amplitude patterns of the directivity in the for zone are presented for cylinders with a cross status in the form of an isoscales triangle with a cross status in the form of an isoscales triangle with a cross status in the form of the results of the calculations produced found in the form of the results of the calculations produced found in the form of the problems considered on the last and to be an exhaustive analysis of the problems accordanced to the last and the method used. If fig. 4 ref. Received by editors, 16 June 1971.

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IL'INSKIY, A. S., MIKUYEYA, T. N.

"Diffraction by a Cylinder in a Flat Wave Guide"

Moscow, Vychislitel'nyye Metody i Programmirovaniye XVI, 1971, pp 22-34

Abstract: A method of investigating diffraction problems by solving the Fredholm integral equations of the first type was developed previously [V. V. Kravtsov, Vychisl. metody i programmirovanive, vyp. V, Moscow State University, 1969]. This method was found to be applicable in studying a number of problems in the theory of hollow systems. Now, a method is described for numerical investigation of the diffraction problem in a wave guide using Fredholm integral equations of the first type. A study is made of the problem of the wave dispersion in a regular cylindrical wave guide in which there is a body D_1 bounded by a closed Lyapunov surface S_1 . The specific form of the Fredholm integral equation of the first type for the case of diffraction in a cylinder is analyzed.

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UDC: 621.372.82

USSR

"Propagation of Electromagnetic Waves in Irregular Waveguides of Variable IL'INSKIY, A. S. Cross Section"

Rasprostraneniye elektromagnitnykh voln v neregulyarnykh volnovadakh peremennogo secheniya. Tr. vychisl. tsentra. Mosk. un-t (cf. English above. Works of the Computing Center, Moscow University), Moscow, 1970, 104 pp, ill., 22 k. (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12B137)

Translation: The author gives the results of an investigation of steady--state electromagnetic oscillations in waveguides with an irregularly shaped lateral surface. A general algorithm for solving the problem is considered which is suitable for a broad class of surfaces in which the plane perpendicular to the axis of the waveguide intersects the waveguide surface in a singly-connected curve. It is shown how the general algorithm can be applied to solution of the problem of matching a rectangular and a circular waveguide. The accuracy of the algorithm is analyzed. Consideration is given to application of the method of cross sections to the same class of problems. N. S.

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CIA-RDP86-00513R002201110013-0" APPROVED FOR RELEASE: 08/09/2001

UDC 612.826.1:612.825.014.42

USSR

MAYORCHIK, V. Ye., VASIN, N. Ya., and <u>IL'INSKIY, I. A.</u>, N. N. Burdenko Institute of Neurosurgery, Academy of Medical Sciences USSR, Moscow

"Role of Specific and Nonspecific Thalamic Nuclei in the Origin of Some Slow Rhythms in the Human Electrocorticogram"

Kiev, Neyrofiziologiya, No 3, May/Jun 73, pp 227-235

Abstract: The authors developed a technique for electrocorticographic recording of trace reactions of the cortex to electrostimulation of nuclei of the optic thalamus and limbic structures and applied it to 42 patients operated for hyperkinesia, intractable pain, and continuous epilepsy. After discharge cortical activity following stimulation of the ventral—oral nuclei and centrum medianum of the thalamus and amygaloid nucleus was found to differ in distribution of trace synchronization of the slow rhythms, duration of bursts of trace activity, and intensity of the accompanying autonomic reactions. Electrostimulation of the ventral—oral nuclei during the aftereffect period resulted in relatively local trace synchronization of the slow rhythms in the premotor electrocorticogram on the side stimulated. Cessation of stimulation of the central medianum, in contrast to

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MAYORCHIK, V. Ye., et al., Neyrofiziologiya, No 3, May/Jun 73, pp 227-235

the ventral-oral nuclei, caused bilateral synchronization of the slow rhythms that sometimes coincided with the onset of bradypnea, bradycardia, and vasoand pilomotor reactions. Stimulation of the amygdaloid nucleus elicited the most pronounced autonomic reactions combined with prolonged bursts of trace hypersynchronization of the slow oscillations or epileptogenic discharges.

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UDC 616.8-009.12-089:616.831-089.12-07:616.831.375-008.6-07 VASIN, N. Ya., GURFINKEL, V. S., IL'INSKIY, I. A., and SAFRONOV, V. A., Scientific Research Institute of Neurosurgery imeni N. N. Burdenko, Academy of Medi-

"Capsular Effects During Electrostimulation of the Ventrolateral Nucleus of the Optic Thalamus in Stereotaxic Operations for Hyperkinesias"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 70, No 9, Sep 70,

Abstract: During surgery of the optic thalamus necessitated by various hyperkinesias, determination of the lateral limits of the ventrolateral nucleus is connected with differentiation of motor reactions occurring during stimulation of the ventrolateral nucleus itself, as well as with reactions resulting from stimulation of the internal capsule. Several methods of registering motor reactions have been used, including electromyography and tremorography. Data are presented on mechanographic and myographic analysis of capsular effects obtained during electrostimulation of the ventrolateral nucleus of the optic thalamus in 32 patients subjected to stereotaxic operations. The operations were conducted under local anesthesia. A needle electrode inserted at a right angle to a depth of 7 mm was used for stimulation. The electrode was moved circularly in 450

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VASIN, N. Ya...et al, Byulleten' Eksperimental'noy Biologii i Meditsiny. Vol 70, No 9, Sep 70, pp 3-6

intervals. The ventrolateral nucleus was stimulated at three levels 3 mm apart. On the basis of the duration of the motor-reaction latent periods it was possible to differentiate capsular responses connected with current loops at the electrode associated with direct stimulation of the ventrolateral nucleus from reactions graphic and myographic registration of the internal capsule. Simultaneous mechanomay also be used, together with other physiological tests, for defining the nucleus.

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